

REMARKS

I. Summary of the Office Action

Claims 1-22 are pending in this application.

Claims 1, 2, 7, 9, and 15 were rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-7 and 16-22 were rejected under 35 U.S.C. § 102(e) as being anticipated by Leighton et al., U.S. Patent No. 6,553,413 ("Leighton").

Claims 8-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Leighton in view of Bommaiah et al., U.S. Patent No. 6,708,213 ("Bommaiah").

II. Summary of Applicants' Response

Applicants have amended claims 1-3, 5-15, 17-19, and 21-22 to correct for claim informalities and typographical errors.

Applicants respectfully traverse the claim rejections under 35 U.S.C. § 112, second paragraph, 35 U.S.C. § 102(e), and 35 U.S.C. § 103(a).

III. Response to Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis for the phrase "maintaining isochronous delivery." Applicants have amended claim 1 to include the word "for" before the phrase "maintaining isochronous delivery" to clarify that this phrase is an operation of the controller and is therefore proper as written. Accordingly, applicants respectfully submit that the rejection should be withdrawn.

Claims 2 and 9 were rejected under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis for the phrase "playback procedure." Applicants have amended claims 2 and 9 to include the article "a" before the phrase "playback procedure." Applicants therefore respectfully submit that with this amendment there is no antecedent basis problem remaining in the claim and the rejection should be withdrawn.

Claim 7 was rejected for being an improper Markush group. Applicants have amended claim 7 to replace the word "set" for the phrase "group consisting of" as suggested by the

Examiner. Applicants respectfully submit that with this amendment the rejection should be withdrawn.

Claim 15 was rejected under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis for the phrase “a full-length feature film in a video format.” Applicants have amended claim 15 to refer back to claim 11 instead of claim 1, therefore eliminating the lack of antecedent basis for the phrase “a full-length feature film in a video format” comprised in “said video content object.” Applicants respectfully submit that with this amendment there is no antecedent basis problem remaining in the claim and that the rejection should be withdrawn.

IV. Response to Claim Rejections Under 35 U.S.C. § 102(e)

Applicants respectfully submit that Leighton fails to disclose, teach, or suggest the claimed invention.

Leighton discloses “... a network architecture that supports hosting on a truly global scale. The inventive framework allows a Content Provider to replicate its most popular content at an unlimited number of points throughout the world. As an additional feature, the actual content that is replicated at any one geographic location is specifically tailored to viewers in that location. Moreover, content is automatically sent to the location where it is requested, without any effort or overhead on the part of a Content Provider.” (Leighton, col. 2, line 66, to col. 3, line 8).

As described in Leighton, “The actual content to be served is preferably supported on a set of hosting servers” (Leighton, col. 3, lines 13-15). “As seen in Fig. 2, a typical Web page comprises a markup language (e.g. HTML) master or base document 28, and many embedded objects (e.g., images, audio, video, or the like) 30” (Leighton, col. 5, lines 31-34). “[a]A base HTML document portion of a Web page is served from the Content Provider’s site while one or more embedded objects for the page are served from the hosting servers, preferably, those hosting servers near the client machine” (Leighton, col. 3, lines 18-22).

“To serve the page contents in this manner, the URL associated with an embedded object is modified” (Leighton, col. 6, lines 43-44). “According to the invention, the embedded object URL is first modified, preferably in an off-line process, to condition the URL to be served by the global hosting servers” (Leighton, col. 6, lines 49-52). “In step 54, the URL for the embedded object is hashed into a value xx,xxx that is then included in the virtual server hostname. This

step randomly distributes the object to a given virtual server hostname” (Leighton, col. 7, lines 2-5).

The Examiner has suggested that Leighton teaches “a metadata enabled edge server for distributing a content object to a user over a network communication link” as claimed in claim 1 of the present invention. In particular, the Examiner has suggested that the “markup language is a metadata” (Office Action, paragraph 9, pp. 9-10) and that Leighton teaches “a controller for distributing said particular one of said content objects to said user using said metadata and for maintaining isochronous delivery of portions of said particular one of said content objects over said network communication link” as claimed in claim 1 of the present invention.

Applicants respectfully submit that the Examiner is incorrect in his characterizations. First, Leighton does not disclose, teach, or suggest “a metadata enabled edge server for distributing a content object to a user over a network communication link” (claim 1). As pointed out above and described throughout Leighton, the distribution of content objects to users over a network communication link in Leighton occurs by serving the base portion of a web page “from the Content Provider’s site while one or more embedded objects for the page are served from the hosting servers, preferably, those hosting servers near the client machine” (Leighton, col. 3, lines 19-22). This is done by modifying an embedded object’s URL “preferably in an off-line process, to condition the URL to be served by the global hosting servers” (Leighton, col. 6, lines 50-52) and by hashing the URL for the embedded object “into a value xx,xxx that is then included in the virtual server hostname” (Leighton, col. 7, lines 2-4). Leighton does not teach, disclose, or suggest distributing the content by using a metadata enabled edge server or, more specifically, by using metadata about the content.

Second, the markup language is not the metadata as suggested by the Examiner. As described in the specification, “[M]etadata contains information about the actual content: for example, its physical properties, possible locations of the content represented by the metadata, its usage terms, and the like, and others as described in greater detail elsewhere in this description” (specification, page 16, line 22, to page 17, line 1). The metadata is not the URL of the content, nor it is the HTML or base portion of a web page representing the content. In fact, the metadata is stored in “metadata database 106” (FIG. 3) while the content is stored in one or more servers. That is, the metadata and the HTML representing the content are two distinct entities.

Similarly, the metadata and the URL of the content are also two distinct entities. As described in the specification, “[M]etadata can also be used to locate video objects or other content items. For example, when a user makes a selection (such as by identifying a URL) for a video on an edge server (ES), the metadata (MD) corresponding to the selected URL is examined to see if the corresponding video object is in the cache. If the object is in the cache, the media is streamed directly from the cache. Otherwise, location information in the metadata is used to locate an available server that has the video object in its cache” (specification, page 19, line 24, to page 20, line 6). That is, a URL has metadata corresponding to it, not in lieu of it. While a URL specifies the address of a particular web page, the metadata specifies location information identifying an available server for serving a given content object represented by the URL. In short, a given URL represents a content object that may be stored in one or more servers, and the metadata corresponding to the URL identifies the available servers that may serve the content object represented by the URL.

Lastly, Leighton does not disclose, teach, or suggest “a controller for distributing said particular one of said content objects to said user using said metadata and for maintaining isochronous delivery of portions of said particular one of said content objects over said network communication link” as claimed in claims 1 and 22 of the present invention. Such a

controller is not described anywhere in Leighton, nor is it suggested for distributing content objects using metadata information and for maintaining isochronous delivery of content objects. As described in Leighton and discussed hereinabove, distribution of data is performed in Leighton by modifying the URL of one more embedded objects in a page, not by using a controller for distributing content objects based on metadata information.

Furthermore, Leighton does not disclose, teach, or suggest, a controller or other mechanism for maintaining isochronous delivery of content objects. In fact, Leighton is not concerned about maintaining isochronous delivery of content objects. Rather, Leighton is concerned about “load balancing across the set of hosting servers” (Leighton, col. 4, lines 7-8) to enable “...users to obtain Internet content on a more efficient basis (i.e., without burdening network resources unnecessarily) and that likewise enables the Content Provider to maintain control over its content” (Leighton, col. 2, lines 24-28). As such, Leighton does not ensure isochronous delivery of content objects.

Because Leighton does not disclose, teach, or suggest any of the elements in claims 1 and 22, applicants therefore respectfully submit that Leighton does not anticipate claims 1 and 22, or claims 2-21, which respectfully depend from claim 1. Since Leighton fails to anticipate the claimed inventions of claims 1 and 22, applicants respectfully submit that claims 1 and 22 and their respective dependent claims, distinguish from, and are allowable over, the cited reference.

V. Response to Claim Rejections Under 35 U.S.C. § 103(a)

Applicants respectfully submit that the combination of Leighton and Bommaiah fails to render obvious the claimed invention.

"A claimed invention is unpatentable if the differences between it and the prior art 'are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.'" 35 USC § 103(a); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1965). Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one skilled in the art, guided only by the prior art references and the then-accepted wisdom in the field. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.* 721 F.2d 1540, 1553.

The best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. There must be a clear and particular showing based on actual evidence of a teaching, suggestion, or motivation to make the cited combination. *C.R. Bard, Inc. v M3 Sys., Inc.*, 157 F.3d 1340,1352 (Fed. Cir. 1998). Broad statements regarding the teachings of multiple references standing alone are not evidence.

The Examiner has suggested that the combination of the elements in Leighton and Bommaiah would render the claimed invention obvious. Applicants respectfully disagree and submit that there is no suggestion in the art that the network architecture disclosed in Leighton and the network of servers disclosed in Bommaiah should be combined to provide the metadata enabled edge server of the present invention.

Neither Leighton nor Bommaiah discloses, suggests, or motivates the use of metadata information for distributing content objects to users. As described above, Leighton distributes content objects among servers in a network of servers by modifying the URL of one or more

content objects. Bommaiah discloses combining "...three methods which are implemented via a novel system architecture to enhance existing caching systems. The methods are: (1) proxy caching to reduce signaling costs, (2) client request aggregation which describes the use of memory and disk resources at the helpers, and (3) data transfer rate control to reduce start-up latency" (Bommaiah, col. 4, lines 57-62). There is no suggestion in either Leighton or Bommaiah to enhance content delivery over a network by using metadata information. There is also no suggestion or motivation in either of these references for "maintaining isochronous delivery" (claims 1, 22) of content objects over the network.

In fact, Leighton teaches away from using metadata information for distributing content objects as content is distributed by modifying the URL of embedded objects. Further, Bommaiah teaches away from using metadata information for distributing content objects as content is distributed according to the caching methods disclosed therein.

The lack of means for providing "a metadata enabled edge server" (claims 1 and 22) and "a controller for distributing said particular one of said content objects to said user using said metadata and for maintaining isochronous delivery of portions of said particular one of said content objects over said network communication link" (claims 1 and 22) is a strong indication that those means were not obvious at the time the invention was made.

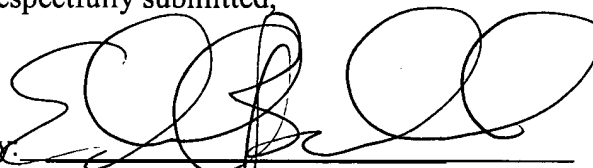
Therefore, applicants respectfully submit that Leighton and Bommaiah do not render obvious the claimed invention. Accordingly, applicants respectfully submit that claims 8-15 distinguish from, and are allowable over, the cited references.

CONCLUSION

In view of the above amendments and remarks, applicants respectfully submits that the present application is in condition for allowance.

If any matters can be resolved by telephone, the Examiner is invited to call the undersigned agent at the telephone number listed below. The Commissioner is authorized to charge any additional required fees, or credit any overpayment, to Dorsey & Whitney LLP Deposit Account No. 50-2319 (Order No. A-69967/RMA/MRC (468914-00017))

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to FIG. 6 and replaces the original sheet. In FIG. 6, previously omitted reference numbers **300**, **301** and **309** have been added to reference their corresponding elements.

(300)
 REFERENCE
 NUMBER 300
 ADDED

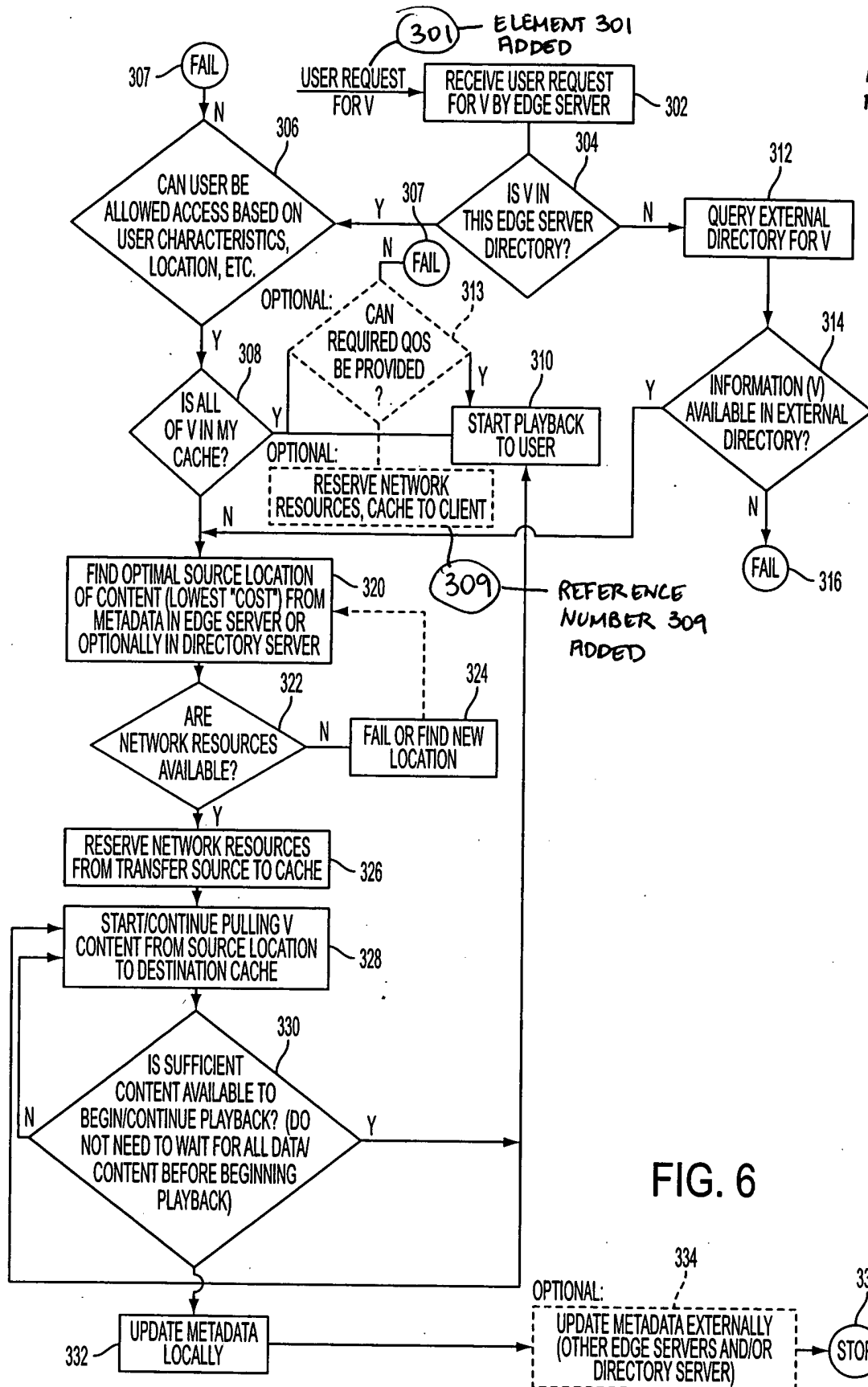


FIG. 6